

AMENDMENTS TO THE CLAIMS

1. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer, comprising at least the steps of:
 - 5 forming an LED stack over a first substrate;
 - forming a first reaction layer over said LED stack;
 - forming a reflective layer over a second substrate;
 - 10 forming a second reaction layer over said reflective layer;
 - and
 - holding together said first reaction layer and said second reaction layer by means of a transparent adhesive layer.
2. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said reflective layer is a reflective metal layer.
3. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 2, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.
- 25
4. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said reflective layer is a reflective oxide layer.
- 30
5. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer

according to claim 4, wherein said reflective oxide layer comprises at least a material selected from the group consisting of SiN_x , SiO_2 , Al_2O_3 , TiO_2 , MgO , and the like.

5 6. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB),
10 perfluorocyclobutane (RFCB), and the like.

7. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein said first reaction layer or
15 said second reaction layer comprises at least a material selected from the group consisting of SiN_x , Ti, Cr, and the like.

8. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, wherein forming a reflective layer over a second substrate comprises the steps of forming a semiconductor stack over said second substrate and forming a reflective layer over said semiconductor stack.
20
25

9. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 1, further comprising the step of removing said first substrate.
30

10. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer,

comprising at least the steps of:
5 forming an LED stack over a first substrate;
forming a first reaction layer over said LED stack;
forming a second reaction layer over a reflective metal
substrate; and
holding together said first reaction layer and said second
reaction layer by means of a transparent adhesive layer.

11. (withdrawn): A method for manufacturing a light emitting
10 diode having an adhesive layer and a reflective layer
according to claim 10, wherein said reflective metal
substrate comprises at least a material selected from the
group consisting of Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge,
Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.

15 12. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
according to claim 10, wherein said transparent adhesive
layer comprises at least a material selected from the group
20 consisting of polyimide (PI), benzocyclobutene (BCB),
perfluorocyclobutane (PFCB), and the like.

25 13. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
according to claim 10, wherein said first reaction layer
or said second reaction layer comprises at least a material
selected from the group consisting of SiNx, Ti, Cr, and the
like.

30 14. (withdrawn): A method for manufacturing a light emitting
diode having an adhesive layer and a reflective layer
according to claim 10, wherein the step of forming a second

reaction layer over a reflective metal substrate comprises the steps of forming a reflective layer over said reflective metal substrate and forming a second reaction layer over said reflective layer.

5

15. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 10, further comprising the step of removing said first substrate.

10

16. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer, comprising at least the steps of:

forming an LED stack over a first substrate;

15

forming a reflective layer over said LED stack;

forming a first reaction layer over said reflective layer;

forming a second reaction layer over a second substrate; and

20 holding together said first reaction layer and said second reaction layer by means of an adhesive layer.

17. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said reflective layer is a reflective metal layer.

25 18. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said reflective layer is a reflective oxide layer.

30 19. (withdrawn): A method for manufacturing a light emitting

diode having an adhesive layer and a reflective layer according to claim 17, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, 5 Cu, AuBe, AuGe, Ni, PbSn, AuZn, and the like.

20. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 18, wherein said reflective oxide layer 10 comprises at least a material selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, MgO, and the like.

21. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, wherein said first reaction layer 15 or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, Cr, and the like.

20 22. (withdrawn): A method for manufacturing a light emitting diode having an adhesive layer and a reflective layer according to claim 16, further comprising the step of removing said first substrate.

25 23. (currently amended): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:
a substrate;
a reflective layer formed over the substrate;
a first reaction layer formed over said reflective layer;
30 a transparent adhesive layer formed over said first reaction layer;
a second reaction layer formed over said transparent

adhesive layer;

and an LED stack formed over said second reaction layer[[.]];

5 wherein at least one reaction layer is formed to enhance an adhesion provided by the transparent adhesive layer.

24. (original): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, further comprising a transparent conductive layer between said 10 second reaction layer and said LED stack.

25. (original): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, wherein said 15 reflective layer is a reflective metal layer.

26. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, wherein said reflective layer is a reflective oxide layer.

20 27. (previously presented): A light emitting diode having an adhesive layer and a reflective layer according to claim 25, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, 25 and AuZn.

28. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 26, wherein said reflective oxide layer comprises at least a material 30 selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, and MgO.

29. (previously presented): A light emitting diode having an adhesive layer and a reflective layer according to claim 23, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of 5 polyimide (PI), benzocyclobutene (BCB), and perfluorocyclobutane (PFCB).

30. (previously presented): A light emitting diode having an adhesive layer and a reflective layer according to claim 10 23, wherein said first reaction layer or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, and Cr.

31. (withdrawn): A light emitting diode having an adhesive layer 15 and a reflective layer, comprising at least: a substrate; a first reaction layer formed over the substrate; a adhesive layer formed over said first reaction layer; a second reaction layer formed over said adhesive layer; 20 a reflective layer formed over said second reaction layer; and an LED stack formed over said reflective layer.

32. (withdrawn): A light emitting diode having an adhesive layer 25 and a reflective layer according to claim 31, further comprising a transparent conductive layer between said reflective layer and said LED stack.

33. (withdrawn): A light emitting diode having an adhesive layer 30 and a reflective layer according to claim 31, wherein said reflective layer is a reflective metal layer.

34. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said reflective layer is a reflective oxide layer.

5 35. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 33, wherein said reflective metal layer comprises at least a material selected from the group consisting of In, Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, AuZn, and 10 the like.

15 36. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 34, wherein said reflective oxide layer comprises at least a material selected from the group consisting of SiNx, SiO₂, Al₂O₃, TiO₂, MgO, and the like.

20 37. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB), perfluorocyclobutane (PFCB), and the like.

25 38. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 31, wherein said first reaction layer or said second reaction layer comprises at least a material selected from the group consisting of SiNx, Ti, Cr, and the like.

30 39. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:

a reflective metal substrate;
a first reaction layer formed over the reflective metal substrate;
a transparent adhesive layer formed over said first reaction
5 layer;
a second reaction layer formed over said transparent adhesive layer;
and an LED stack formed over said second reaction layer.

10 40. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, further comprising a transparent conductive layer between said second reaction layer and said LED stack.

15 41. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said reflective metal substrate comprises at least a material selected from the group consisting of Sn, Al, Au, Pt, Zn, Ag, Ti, Pb, Pd, Ge, Cu, AuBe, AuGe, Ni, PbSn, and AuZn.

20 42. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said transparent adhesive layer comprises at least a material selected from the group consisting of polyimide (PI), benzocyclobutene (BCB), and perfluorocyclobutane (PFCB).

25 43. (withdrawn): A light emitting diode having an adhesive layer and a reflective layer according to claim 39, wherein said first reaction layer or said second reaction layer comprises at least a material selected from the group consisting of
30 SiNx, Ti, and Cr.

44. (currently amended): A light emitting diode having an adhesive layer and a reflective layer, comprising at least:

5 a reflective means;

 a first reaction layer formed over said reflective means;

 a transparent adhesive layer formed over said first reaction layer;

 a second reaction layer formed over said transparent adhesive layer; and

 an LED stack formed over said second reaction layer[[.]];
10 wherein at least one reaction layer is formed to enhance
 an adhesion provided by the transparent adhesive layer.